

# Biosciences Career Pathway

MISSOURI ECONOMIC RESEARCH & INFORMATION CENTER  
MISSOURI DEPARTMENT OF HIGHER EDUCATION  
& WORKFORCE DEVELOPMENT  
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## What are Career Pathways?

Career Pathways are groups of occupations within a career field. Occupations within a pathway share common skills, knowledge, and interests. The pathways use industry-recognized credentials and are examples of how different levels of training or education can help provide opportunities for career advancement.

## Missouri Numbers:



**2,669 Employers**



**44,470 Workers**



**\$60,398 Average Wage**

## Why Have a Career in Biosciences?

Developments in biotechnology rapidly change the way we live, work, and learn. Missouri has a strong presence in Plant and Agricultural Technology, Biomedicine, and Companion and Feed Animal Sciences. Bioscience represents 1.9 percent of total private sector employment, employing over 44,000 workers in 2,669 businesses in 2019. Employment has been growing at an average of 2.1 percent per year from 2014 to 2019. Missouri has high employment concentrations in Bioscience, particularly in Animal Food Manufacturing, Hog and Pig Farming and Agricultural Chemical Manufacturing. Bioscience industry wages averaged \$60,398 in 2019, higher than the state average of \$51,139 for all industries.

From research to production, there are a variety of innovative and rewarding careers in the Bioscience fields of Production, Research and Development, and Animal Sciences.

## Know the Basics

Bioscience deals with how living things work and interact with each other, and teaches how to ask questions, make observations, and solve problems. Soft skills, such as interpersonal skills, professionalism, and dependability are important in all industries and occupations, including Bioscience. Bioscience deals heavily with research and production, so knowledge of mathematic and scientific principles is a must. Safety and quality control are also a critical part of this industry, so attention to detail and continuous learning are necessary.

## Skills needed for Success:

In addition, Bioscience has a set of industry-wide technical competencies that represent the knowledge and skills necessary to be successful in this industry. Research and development, manufacturing process design and development, knowledge of medical devices, drugs, and pharmaceuticals, as well as knowledge of agricultural feedstock and chemicals are some of the skills that may be needed for success.

## Who's Hiring in Missouri?

**Bayer Corporation**  
**Stryker Medical**  
**Pfizer**  
**MilliporeSigma**  
**Bunge**



## Production

## Research & Development

## Animal Science

### Now

#### Short-Term On-the-Job Training

**Helpers-Production Workers**  
Entry: \$24,790; Average: \$30,550

**Weighers, Measurers, Checkers,  
and Samplers, Recordkeeping**  
Entry: \$28,690; Average: \$36,050

**Farmworkers, Farm, Ranch, &  
Aquacultural Animals**  
Entry: \$23,510; Average: \$29,300

**Certificates:** Forklift Operator

**Degrees:** Chemistry  
**Certificates:** American Society for  
Quality (ASQ), Certified Quality  
Auditor

**Certificates:** Certified Manager of  
Animal Resources

### Next

#### Certificate, Associate Degree, Apprenticeship, Moderate- to Long- Term On-the-Job Training

**First-Line Supervisor of  
Production Workers**  
Entry: \$42,220; Average: \$60,230

**Industrial Machinery Mechanics**  
Entry: \$42,700; Average: \$54,690

**Chemical Equipment Operators  
& Tenders**  
Entry: \$32,440; Average: \$43,710

**Chemical Technicians**  
Entry: \$35,340; Average: \$49,070

**Agricultural & Food Science  
Technicians**  
Entry: \$34,760; Average: \$47,890

**Inspectors, Testers, Sorters,  
Samplers, & Weighers**  
Entry: \$34,350; Average: \$45,350

**Veterinary Technologists &  
Technicians**  
Entry: \$25,010; Average: \$32,670

**Veterinary Assistants &  
Laboratory Animal Caretakers**  
Entry: \$23,010; Average: \$29,000

**Degrees:** Industrial Mechanics  
and Maintenance  
**Certificates:** Commercial  
Driver's License, Chemical  
Operator

**Degrees:** Chemistry  
**Certificates:** American Society  
for Quality (ASQ), Certified  
Quality Auditor

**Certificates:** Veterinary  
Technician/Technologist,  
Laboratory Animal Technician

### Later

#### Bachelor's Degree or Advanced Degree

**Industrial Production Managers**  
Entry: \$76,440; Average: \$104,990

**Chemists**  
Entry: \$49,290; Average: \$73,700

**Veterinarians**  
Entry: \$69,360; Average: \$87,040

**Chemical Engineers**  
Entry: \$78,920; Average: \$105,990

**Medical Scientists**  
Entry: \$48,180; Average: \$75,330

**Farmers, Ranchers, & Other  
Agricultural Managers**  
Entry: \$50,520; Average: \$70,130

**Degrees:** Engineering,  
Business Administration &  
Management

**Degrees:** Chemistry, Clinical  
Laboratory Science/Technologist,  
Chemical Engineering

**Degrees:** Animal Sciences,  
Horticultural Operations,  
Veterinary Medicine

#### Sources:

Burning Glass Technologies Labor/Insight™ tool  
Employment and Training Administration, Competency Model Clearinghouse  
2019 Occupational Employment Survey Wage data, U.S. Bureau of Labor Statistics  
Quarterly Census of Employment and Wages, U.S. Bureau of Labor Statistics  
Top employers data is based on 2020 online job ads



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